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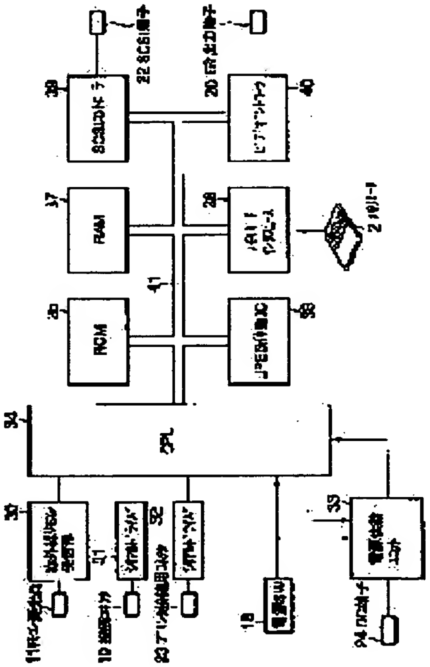
(54) IMAGE DISPLAY DEVICE

(57)Abstract:
PROBLEM TO BE SOLVED: To obtain the image display device that can display a file by which a desired file is easily retrieved among plural files stored in plural directories.
SOLUTION: A CPU 34 uses a serial driver 31 to read three image files from 4 directories among plural directories of an MO disk in which plural image files are recorded with a hierarchical directory structure, allows a JPEG expansion IC 36 to expand them and stores the resulting files to a RAM 37. Then 4 × 3 reduced images are laid out in 2-dimension where one directory is used for a column and the images are displayed on a television receiver in a multi-index display way under the control of a video controller 40. In this case, a front cover denoting names of the directories is displayed at the left end of each row.



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CLAIMS

[Claim(s)]
[Claim 1] When it is the image display device which reads and displays an image from the record medium with which two or more image files were recorded and is what the above-mentioned record medium records as it is also at hierarchical directory structure about an image file, The read-out means which reads M image files (M is two or more integers) from the directory of N individual (N is two or more integers), respectively, The image display device characterized by providing a display means to arrange and display the contents of each NxM piece image file read by this read-out means on two dimensions.
[Claim 2] The above-mentioned display means is an image display device according to claim 1 which is in the condition which can distinguish correspondence relation with the contents display of the M above-mentioned image files read with the above-mentioned read-out means about the directory concerned, and is characterized by displaying the name of the directory concerned on a part of above-mentioned 2-dimensional arrangement.
[Claim 3] It is the image display device according to claim 1 characterized by for the above-mentioned read-out means answering predetermined actuation, performing additional read-out of image files other than the image file of the above-mentioned N individual corresponding to one of two or more directories displayed by the above-mentioned 2-dimensional arrangement, replacing the above-mentioned indicating equipment with the contents of the image file of directories other than the directory, and displaying the contents of each image file which carried out additional read-out with the above-mentioned read-out means.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the image display device which reads and displays an image from the record medium with which two or more image files were recorded.
[0002]
[Description of the Prior Art] The image display device which displays the image file which took a photograph with the digital camera and was saved conventionally at record media, such as a memory card, and the image file which incorporated by the image reader and was saved at mass record media, such as a hard disk and an MO disk, on the display of a personal computer etc. is known.
[0003] In case such an image file is displayed, the image display device which enabled it to perform the display which raised list nature by in addition to the one-sheet display which displays only the image arranging two or more 2-dimensional contents of two or more image files with a contraction image, and displaying them is also well-known like JP,10-161837,A or JP,10-164484,A. the list display by such 2-dimensional arrangement — or [the inside of two or more image files] — from — it is suitable for looking for a desired image file.
[0004]
[Problem(s) to be Solved by the Invention] By the way, as for mass record media, such as a hard disk and an MO disk, it is common to usually have hierarchical directory structure, and to divide and save many image files to two or more directories.
[0005] However, in case two or more 2-dimensional contraction images are arranged and are displayed, the conventional image display device is constituted so that the contents of the image file in one directory may be displayed. Therefore, if it does not know to which directory the desired image file is saved, even if a user will perform the above list displays, he cannot find out a desired image file easily.
[0006] This invention was made in view of the above-mentioned point, and aims at offering the image display device which can perform the display which can discover a desired file easily out of the multi-file saved by dividing to two or more directories.
[0007]
[Means for Solving the Problem] In order to attain the above-mentioned purpose, the image display device by invention according to claim 1 When it is what reads and displays an image from the record medium with which two or more image files were recorded, and the above-mentioned record medium records as it is also at hierarchical directory structure about an image file, It is characterized by having the read-out means which reads M image files (M is two or more integers) from the directory of N individual (N is two or more integers), respectively, and a display means to arrange and display the contents of each NxM piece image file read by this read-out means on two dimensions.
[0008] That is, M image files (M is two or more integers) are read from the directory of N individual of a record medium, respectively, and he arranges the contents of each of this NxM piece image file to two dimensions, and is trying to display them according to the image display device of invention according to claim 1.
[0009] Moreover, the image display device by invention according to claim 2 is characterized by displaying the name of the directory concerned on a part of above-mentioned 2-dimensional arrangement in the condition that the above-mentioned display means can distinguish correspondence relation with the contents display of the M above-mentioned image files read with the above-mentioned read-out means about the directory concerned in the image display device by invention according to claim 1.
[0010] That is, he is trying to display the name of the directory concerned on a part of above-mentioned 2-dimensional arrangement in the condition which can distinguish correspondence relation with the contents display of the M above-mentioned image files according to the image display device of invention according to claim 2.
[0011] Moreover, the image display device by invention according to claim 3 In the image display device by invention according to claim 1, the above-mentioned read-out means answers predetermined actuation. Additional read-out of image files other than the image file of the above-mentioned N individual corresponding to one of two or more directories displayed by the above-mentioned 2-dimensional arrangement is performed. The above-mentioned indicating equipment replaces with the contents of the image file of directories other than the directory, and is characterized by displaying the contents of each image file which carried out additional read-out with the above-mentioned read-out means.
[0012] That is, predetermined actuation is answered, additional read-out of image files other than the image file of the above-mentioned N individual corresponding to one of two or more directories displayed by the above-mentioned 2-dimensional arrangement is performed, and he replaces with the contents of the image file of directories other than the directory, and is trying to display the contents of each [these / that carried out additional read-out] image file according to the image display device of invention according to claim 3.
[0013]
[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained with reference to a drawing. Drawing 1 is drawing showing the digital image edit structure of a system which applied the digital image edit equipment of this invention. As a basic configuration of this edit system, the record media (below, it is called a memory card) 2, such as a digital camera 1 or SmartMedia, and a CompactFlash card, and television 4 are connected to digital image edit equipment 7. In addition, the memory built in the digital camera 1 here shall also be included in a record medium. It can display on the basis of control of the image recorded on the image or memory card 2 photoed with the digital camera 1 by this configuration of digital image edit equipment 7 on the screen of television 4 automatically in a short time (here around 5 seconds). In this case, the assignment of

an image and the edit of an image to display are performed by operating remote control 3.

[0014] The configuration which connected electronic album equipment 5 to digital image edit equipment 7 through interfaces, such as SCSI, at the above-mentioned basic configuration further is also possible. An MO disk, PD, a ZIP disk, etc. can be used as a record medium of electronic album equipment 5. By this configuration, after displaying on the screen of television 4 the image photoed with the digital camera 1, and the image recorded on the memory card 2, remote control 3 is operated, and it can bundle up or divide into electronic album equipment 5, and can save with the gestalt of a folder to it. On the contrary, the image saved to electronic album equipment 5 is recordable on a digital camera 1 or a memory card 2. Moreover, the image saved to electronic album equipment 5 by actuation of remote control 3 can be displayed on the screen of television 4, and assignment of an image and edit of an image can be performed. Moreover, when two or more electronic album equipments 5 are connected, an image can be transmitted and saved from electronic album equipment 5 to other electronic album equipments again. Furthermore, it is also possible to transmit and display on a personal computer the image saved to electronic album equipment 5.

[0015] The configuration which connected the printer 6 to digital image edit equipment 7 through a serial, SCSI, or a parallel interface further in addition to the above-mentioned basic configuration or the configuration which added electronic album equipment 5 to the above-mentioned basic configuration is also possible. By this configuration, it can be being begun suitably to read the image recorded on a digital camera 1, a memory card 2, or electronic album equipment 5, and can be made to be able to display on television 4, and this image can be printed by the printer 6 the command from remote control 3.

[0016] Drawing 2 (A) and (B) are the appearance perspective views of the above-mentioned digital image edit equipment 7, (A) shows a front face and (B) shows the situation on the back. As shown in drawing 2 (A), the eject button 13 for taking out the recognition lamp 12 and memory card 2 which recognize that the connection connector 10 for connecting a digital camera 1, the remote control light-receiving opening 11 which receives the infrared radiation from remote control 3, and a memory card 2 were inserted, the drive 14 for memory card 2, the line indicator 15, and the electric power switch 16 are formed in the front face of digital image edit equipment 7.

[0017] Moreover, as shown in drawing 2 (B), the DC terminal 24 for supplying the connector 23 for printer connection for connecting the MO drive connection 22 for connecting ID1 (21-1) and ID2 for identifying the video outlet terminal 20 for connecting television 4 and a SCSI interface (21-2), and electronic album equipment 5 and a printer 6 and an external power to the interior of equipment is formed in the tooth back of digital image edit equipment 7.

[0018] Drawing 3 is the functional block diagram showing the internal configuration of the above-mentioned digital image edit equipment 7. The infrared remote control receive section 30 by which the remote control light-receiving opening 11 was connected, Serial Driver 31 to which the connection connector (serial connector) 10 was connected, Serial Driver 32 to which the connector 23 for printer connection was connected, and the current supply unit 33 to which the DC terminal 24 was connected are connected to CPU34.

[0019] Furthermore, ROM35 in which the software for image edit was stored through the bus 41, RAM37 for storing image data temporarily, the SCSI controller 39 by which the MO drive connection (SCSI terminal) 22 was connected with the JPEG expanding IC 36 for elongating image data by the JPEG method, the video controller 40 to which the video outlet terminal 20 was connected, and the memory card interface 38 are connected to CPU34. If an electric power switch 16 is turned on, a power source will be supplied to CPU34 by the current supply unit 33. Moreover, when an electric power switch 16 is turned off, the signal to which the timing which suspends supply of a power source with software is judged, and a halt of current supply is permitted by CPU34 is sent to the current supply unit 33.

[0020] Drawing 4 is drawing showing a process until the image data recorded on MO disk 5-1 inserted in a memory card 2 or electronic album equipment 5 is read and it is displayed on the screen of television 4. The image data recorded on the memory card 2 is incorporated by CPU34 through the memory card port 50 (memory card interface 38) as physical-page data 51. Error correction by calculating ECC to this physical-page data etc. is performed, and it is changed into logical sector data by mapping (52). After being compressed, being sent to the JPEG expanding IC 36 and performing expanding processing 54, this logical sector data is again incorporated by CPU34, and is divided into MCU (minimum coding unit) which is the image-processing unit of JPEG (55). The image data of this MCU unit is temporarily kept by RAM37. Next, while changing the brightness and chrominance signal in image data of a MCU unit into the RGB display system in which a television display is possible from a YUV display system, contraction and rotation processing of a display screen are performed and drawing data are generated (56). This drawing data is incorporated by VRAM of a video controller (VDP) 40, is outputted from (57) and the video outlet terminal 20, and is displayed on the screen of television 4.

[0021] Although the above described the case where the image data of a memory card 2 was displayed, when reading and displaying the image data memorized by MO disk 5-1, after error correction etc. is performed within electronic album equipment 5, it is incorporated by CPU34 through SPC (SCSI protocol controller)53 (SCSI controller 39), and conversion to logical sector data is performed. Subsequent processings turn into a case of a memory card 2, and the completely same processing.

[0022] Moreover, although processing which records image data on a memory card 2 or MO disk 5-1 is performed within block 60, the flow of the processing at this time becomes completely contrary to the processing when reading.

[0023] Drawing 5 is drawing showing various kinds of carbon buttons prepared in the above-mentioned remote control 3. The carbon button shown by the reference mark 70-1 to 70-4 is used for migration of cursor, selection of a menu, etc. The carbon button shown by the reference mark 71 is the O.K. carbon button for making an image, decision of a menu, etc. to display. A reference mark 72 is used in order to return to the screen in front of one. Moreover, it is used also in order to once cancel actuation. A reference mark 73-1 and the carbon button shown by 73-2 are used when switching coma delivery of the image currently displayed, and the screen between a memory card / digital camera / MO disk drive. Moreover, a reference mark 74-1 and the carbon button shown by 74-2 are used as the one-sheet display of an image, and an object for an index display. That is, 74-1 reduces the displayed image at the time of an one-sheet display, and it displays comparatively for 16 minutes, or it restores the expanded image to the original magnitude. It is used for inserting the cut image at the time of an index display. Moreover, 74-2 is used in order to expand the displayed image at the time of an one-sheet display or to restore the reduced image to the original magnitude. It is used for choosing the image copied [is moved and] and deleted in an index display (cut). The carbon button shown by the reference mark 75 is a menu button, and it is used in order to display a menu. The carbon button shown by the reference mark 76 is used in order to rotate the displayed image per 90 degrees clockwise.

[0024] Drawing 6 is drawing showing the condition of sticking the above-mentioned remote control 3 on the rear face of the remote control 80 for television actuation with the double-sided tape etc. Although remote control 3 can also be operated independently, you may unify by sticking on the rear face of the remote control 80 for television actuation with a double-sided tape etc., as shown in drawing 6 . It can prevent that a user loses the comparatively small remote control 3 by doing in this way.

[0025] Next, actuation of the image edit equipment 7 in the digital image edit system of the above configurations is explained more to a detail. If ON actuation of the power source SW16 is carried out and a power source is supplied to CPU34, CPU34 will start actuation according to the software for image edit as shown in drawing 7 (A) memorized by ROM35.
[0026] That is, first, as shown in drawing 7 (B), the icon 201 of a digital camera (digital camera) 1, the icon 202 of a memory card 2, and the icon 203 of MO disk 5-1 are displayed on the lower left of the screen of television 4 by the tag format (step S1). And the device and medium which are connected are detected (step S2).
[0027] Here, when the digital camera 1 is connected, (step S3) and digital camera processing are performed (step S4), and when the memory card 2 is inserted, (step S5) and memory card processing are performed (step S6). Moreover, when MO disk 5-1 is inserted in the MO drive as electronic album equipment 5, (step S7) and MO processing are performed (step S8). And after these digital camera processing, memory card processing, and MO processing termination can cope with exchange of a medium now by returning to the above-mentioned step S2.
[0028] Digital camera processing by the above-mentioned step S4 and memory card processing at step S6 are performed by [as being shown in drawing 8]. That is, first, the image data in a digital camera 1 or a memory card 2 is acquired, and it stores in RAM37 (step S11). And whether thumbnail information is included in the acquired image data distinguishes (step S12), and if contained, an index display as shown in drawing 9 (A) or (B) using the thumbnail information will be performed (step S13).
[0029] At this time, the above-mentioned icons 201-203 begin to move towards the upper part from a lower part onto the screen of television 4, and the contraction image is displayed for every line along with it. Moreover, in order to show whether it is that the current display image is remembered to be by which medium, a discernment indication of the icon is given. For example, in the icon 201 of a digital camera 1, it changes to the pattern in the condition that the lens cover opened (drawing 9 (A)), and changes to the pattern in the condition that the medium inclined, by the icon 202 of a memory card 2 (drawing 9 (B)). In addition, it indicates by discernment by changing a color and concentration.
[0030] In addition, in this index display, the number of sheets (number of sheets is detected in the above-mentioned step S11) of an image and the date of the image of the 1st sheet which are recorded on the predetermined location (drawing 9 (A) left end location) by a device or a medium concerned are displayed as a cover 203. Therefore, in an index display, the contraction image of a maximum of 19 sheets is displayed. When the image of 19 or more sheets is recorded, after moving cursor (shown by ****) 204 to the image location of the location of a screen lower limit by actuation of the migration carbon button 70-1 to 70-4 of remote control 3, the contraction image of five sheets as follows can be displayed by operating the bottom migration carbon button 70-4 further. At this time, as it is, the display of the contraction image from the 1st sheet to the 5th sheet is eliminated, and, as for a cover 203, the contraction image of the 6th sheet thru/or the 19th sheet is moved by five sheets, respectively.
[0031] In addition, the reason for displaying the date of the image of the 1st sheet on a cover In having displayed the date about all contraction images the contraction image itself becoming hard to see, however not displaying the date at all — if — since it is hard coming to presume what kind of things those images are — the date of the piece of representation — it is because it enabled it to avoid both of the problems by displaying.
[0032] Moreover, when an icon moves up as mentioned above, the icon of the device which is not connected or inserted in the check in the above-mentioned step S2 and a medium is left behind to the location at the lower left of original. Therefore, if the MO drive is connected and there is no becoming (MO disk 5-1 is not inserted), as shown in drawing 9 (C), only the icon 201 of a digital camera 1 and the icon 202 of a memory card 2 will move up.
[0033] Furthermore, although all the icons 200-202 are moved to an upper left location as mentioned above when all devices and media are connected or inserted The image which is predetermined or is saved to the device corresponding to the icon which the user chose, and the medium is indicated by the index. Other devices and the image of a medium Since it hides in the backside [the active image by which it was indicated by the index], it is not visible (according to selection of a device and a medium, indicated by change in fact). Moreover, when the contents of an image are updated by exchange of a medium etc., a change indication of the contraction image corresponding to the image of the medium will be given as an active index display.
[0034] On the other hand, when it is judged in the above-mentioned step S12 that thumbnail information is not included, from each acquired image data, a contraction image is created (step S14) and an index display is performed (step S15).
[0035] Then, it distinguishes whether cursor 204 is in the location of the cover 203 index on display (step S16). And if cursor 204 is in a cover location, after performing remote control actuation processing 1 which is mentioned later for details (step S17), it returns to the routine of a high order.
[0036] Moreover, when it is judged at the above-mentioned step S16 that there is no cursor 204 in a cover location, it judges further whether cursor 204 is in the location of the contraction image of one sheet (step S18). In order for there to have to be cursor 204 in a cover location or which contraction image location, when there is nothing also in these locations, it progresses to error processing.
[0037] If cursor 204 is in the location of the contraction image of one sheet, it will wait to operate the O.K. carbon button 71 of remote control 3 (step S19), and the full screen display of the one-sheet image corresponding to the contraction image will be carried out to the screen of television 4 (step S20). And remote control actuation processing 2 which is mentioned later for details is performed (step S21). Then, it returns to the original index display (step S22), and returns to the routine of a high order.

[0038] Remote control actuation processing 1 of the above-mentioned step S17 is performed by [as being shown in drawing 10]. That is, actuation of the cut carbon button 74-2 of remote control 3 adds a mark to all the contraction images currently displayed (step S32). (step S31) Although this does not carry out especially illustration, the alphabetic character "mark" is displayed in an image. In addition, this mark can be canceled by operating the cut carbon button 74-2 once again. And it waits for ON of the menu button 75 of remote control 3 (step S33), and selection of any of the print in the copy or printer 6 to MO disk 5-1 for the menu which is not illustrated to be displayed and to perform is received, and it judges any were chosen (step S34). If it is a copy to MO disk 5-1, the image memorized by RAM37 corresponding to all the contraction images to which the above-mentioned mark was given will be copied to MO disk 5-1 (step S35), and it will return to the routine of a high order. Moreover, if it is a print, after printing the image memorized by RAM37 corresponding to all the contraction images to which the above-mentioned mark was given by the printer 6 (step S36), it returns to the routine of a high order. In addition, although a mark shall be attached to the image currently displayed at the above-mentioned step S32, of course, it is good also as a thing also including the image corresponding to the cover which is not displayed which attaches a mark to all images (following, the same).
[0039] Moreover, when the image rotation carbon button 76 of remote control 3 is operated, after indicating (step S37) and all the contraction images currently displayed by rotation 90 degrees at a clockwise rotation (step S38), it returns to the routine of a high order. In addition, at this time, the image itself memorized by RAM37 corresponding to these contraction image does not

rotate, but it changes the parameter which shows the direction corresponding to the image concerned. The parameter about this hand of cut is built into the file name of the image file concerned by the predetermined coding technique in which will add "A" to the last of a file name 90 degrees if it is rotation, and it is referred to as "PIC0001A.JPG" when a file name is "PIC0001.JPG." Therefore, in case an index display is performed by the above-mentioned step S13 or S15, the parameter built into the file name of this image file is decrypted, and the display according to that parameter is performed. It is the same as that of this also about other parameters mentioned later.

[0040] Moreover, when the menu button 75 of remote control 3 is operated, (step S39) and a detail return to the routine of a high order, after performing menu processing 1 which is mentioned later (step S40).

[0041] And when the O.K. carbon button 71 of remote control 3 is operated, (step S41) and an album display process are performed (step S42), and it returns to the routine of a high order. In this album display process, as shown in drawing 9 (D), it displays four contraction images at a time on the background image of the shape of pasteboard of an album.

[0042] Moreover, when the above-mentioned cut carbon button 74-2, the image rotation carbon button 76, a menu button 75, and the O.K. carbon button 71 are not operated, it returns to the routine of a high order. In the menu processing 1 at step S40 according to the menu button 75 above-mentioned actuation, the predetermined menu screen which is not illustrated is displayed first and the menu selection by actuation of the migration carbon button 70-1 to 70-4 of remote control and O.K. carbon button 71 actuation is received. And processing according to the selected menu is performed.

[0043] That is, as shown in drawing 11 (A), when a slide show is chosen, (step S51) and the slide show which carries out the full screen display of every one image one by one for every predetermined time are performed (step S52).

[0044] Moreover, when the date display is chosen, the date is displayed on (step S53) and each contraction image (step S54), and when a time stamp is chosen, time of day is displayed on (step S55) and each contraction image (step S56). Here, the information on a date and time of day is encoded and added to the file name of each image data which corresponds as one of the parameters. Usually, it is data of photography time.

[0045] And since it is a time of a print being chosen when the above-mentioned slide show, the date display, and the time stamp are not chosen that is, an index print is performed in one sheet of form (step S57), and all the contraction images currently displayed are returned to the routine of a high order.

[0046] Next, the remote control actuation processing 2 at the above-mentioned step S21 at the time of all the image display of one image is explained with reference to the flow chart of drawing 12 . That is, when the image rotation carbon button 76 of remote control 3 is operated, after indicating (step S61) and the image currently displayed by rotation 90 degrees at a clockwise rotation (step S362), it returns to the routine of a high order. In addition, at this time, as mentioned above, the image itself memorized by RAM37 does not rotate, but it changes the parameter which shows the direction corresponding to the image concerned.

[0047] Moreover, when the menu button 75 of remote control 3 is operated, (step S63) and a detail return to the routine of a high order, after performing menu processing 2 which is mentioned later (step S64).

[0048] When the stepper button 73-1 of remote control 3 and 73-2 are operated, the one-sheet full screen display of (step S65), the front image of the image currently displayed current [one], or the back image is carried out (step S66). Then, it returns to the routine of a high order.

[0049] the case where the zoom carbon button 74-1 of remote control 3 and 74-2 are operated — (step S67) expansion / contraction processing — carrying out — the image — an enlarged display — or a reduced display is carried out (step S68). And it returns to the routine of a high order.

[0050] When the migration carbon button 70-1 to 70-4 of remote control 3 is operated, a part for (step S69) and a display is moved (step S70). That is, since the image by which the enlarged display was carried out shows some former images, it displays the part of the direction according to actuation of a migration carbon button. Then, it returns to the routine of a high order.

[0051] And actuation of a carbon button 72 in which remote control 3 returns is judged (step S71). If it is not operated, when return and it are operated by the above-mentioned step S61, it returns to the routine of a high order.

[0052] In the menu processing 2 at step S64 according to the menu button 75 above-mentioned actuation, the predetermined menu screen (some menus differ from the menu screen in the above-mentioned menu processing 1) which is not illustrated is displayed first, and the menu selection by actuation of the migration carbon button 70-1 to 70-4 of remote control and O.K. carbon button 71 actuation is received. And according to the selected menu, processing as shown in drawing 11 (B) is performed. This drawing 11 (B) is omitted about the same part as drawing 11 (A) for simplification. That is, at this menu processing 2, step S51 thru/or step S56 are the same as that of the above-mentioned menu processing 1. However, the display of a date and time of day is performed only about the image concerned displayed one sheet in this case.

[0053] And when the above-mentioned slide show, the date display, and the time stamp are not chosen next, it judges whether color correction was chosen (step S58). When color correction is chosen, he performs color correction processing (step S59), and is trying to return to the routine of a high order. Moreover, since it is that the print was chosen when color correction is not chosen, the image concerned currently displayed is printed (step S57), and it returns to the routine of a high order.

[0054] Next, MO processing at the above-mentioned step S8 is explained with reference to the flow chart of drawing 13 . That is, first, the image data in MO disk 5-1 is acquired, and it stores in RAM37 (step S81). Since two or more directories can be established in MO disk 5-1 and two or more preservation of the image data can be carried out at each at this time, the first image for four sheets is picked out from the first four directories here, respectively. Moreover, the number of image files of each directory is detected. And a multi-index display as shown in drawing 14 (A) is performed by creating a contraction image and displaying them by making one folder into a party from each these-acquired image data, (step S82).

[0055] Here, when this MO disk is specified as a default, as mentioned above, it will have been competed by the above-mentioned icons 201-203 towards the upper part from the lower part, and the contraction image will be displayed for every line along with it. Moreover, an indication is not given in order that a multi-index display may hide behind [which shows the contents of these digital cameras 1 or the memory card 2] an index display, when the digital camera 1 and the memory card 2 are specified as a default. Therefore, although this multi-index display is good also as what is created for the first time when MO disk 5-1 is chosen by the stepper button 73-1 of remote control 3, and actuation of 73-2, after the digital camera processing by the above-mentioned step S4, or memory card processing at step S6, it shall create an indicative data and shall carry out memory here. Moreover, when exchanged in MO disk 5-1, it sets. It responds to the exchange. Automatically from the index display of a digital camera 1 or a memory card 2 It shall be switched to the multi-index display of this MO disk 5-1 ([when similarly exchanged in a memory card 2]). According to the exchange, it is automatically switched to the index display of a memory card 2 from the index display of a digital camera 1, or the multi-index display of MO disk 5-1.

[0056] In addition, also in this multi-index display, the number of sheets of an image and the date of the image of the 1st sheet which are recorded on the predetermined location (drawing 14 (A) left end location) of each line by this directory with the name of the directory concerned are displayed as a cover 203. Moreover, in this multi-index display, although the contraction image of four directories is displayed When the directory beyond it exists After moving cursor 204 to the image location of the location of a screen lower limit by actuation of the migration carbon button 70-1 to 70-4 of remote control 3, by operating the bottom migration carbon button 70-4 further, the image of the next directory is read and a contraction image can be displayed. At this time, the display of the top line is eliminated and the contraction image of the 2nd line thru/or the 4th line is moved onto a party part, respectively. About the detail of such a cursor advance and a scrolling display, it mentions later.

[0057] In this way, after a multi-index display is made, it distinguishes whether cursor 204 is in the location of which the cover 203 multi-index on display (step S83). And there is no cursor 204 in a cover location, namely, in [a certain] being in the location of the contraction image of one sheet, it waits to operate the O.K. carbon button 71 of remote control 3 (step S84), and carries out the full screen display of the one-sheet image corresponding to the contraction image to the screen of television 4 (step S85). And remote control actuation processing 2 which was mentioned above is performed (step S86). Then, it returns to the original multi-index display (step S87), and returns to the above-mentioned step S83.

[0058] On the other hand, when cursor 204 is in the location of which cover 203 next, it judges whether the O.K. carbon button 71 of remote control 3 was operated (step S88). When the O.K. carbon button 71 is operated, as shown in (A) of drawing 14 , the contents of the directory corresponding to the cover concerned are indicated by the index (step S89), and remote control actuation processing 1 in which it mentioned above can be performed in this index display (step S90). Then, it returns to the above-mentioned step S83.

[0059] Moreover, when the O.K. carbon button 71 is not operated next, it judges whether the image rotation carbon button 76 of remote control 3 was operated (step S91). And when the image rotation carbon button 76 is operated, after rotating all the contraction images corresponding to the cover concerned, and the all image file in a correspondence directory (step S92), it returns to the above-mentioned step S83. In addition, as mentioned above also in this case, only the parameter instead of the image itself is changed.

[0060] When the image rotation carbon button 76 is not operated next, it judges whether the cut carbon button 74-2 of remote control 3 was operated (step S93). And when the cut carbon button 74-2 is operated, after adding a mark to all the contraction images corresponding to the cover concerned (step S94), it returns to the above-mentioned step S83.

[0061] When the cut carbon button 74-2 is not operated next, it judges whether the menu button 75 of remote control 3 was operated (step S95). And when the menu button 75 is operated, after performing the following menu manipulation processings (step S96), it returns to the above-mentioned step S83. Moreover, when this menu button 75 is not operated, either, it returns to the routine of a high order.

[0062] In menu manipulation processing of the above-mentioned step S96, as shown in drawing 14 (C), when it judges first whether the mark is added to which contraction image (step S101) and the mark is not added, after performing menu processing 1 which was mentioned above (step S102), it returns to the routine of a high order.

[0063] On the other hand, when the mark is added to which contraction image, the predetermined menu screen (some menus differ from the menu screen of the above-mentioned menu processing 1 or 2) which is not illustrated is displayed, and the menu selection by actuation of the migration carbon button 70-1 to 70-4 of remote control and O.K. carbon button 71 actuation is received. And if the selected menu is a copy (step S103), the image with which the mark was added will be copied (step S104), and it will return to the routine of a high order.

[0064] Here, the image file which copy actuation is specifying the directory of a location to copy and an image location (X on a multi-index display, Y coordinate) by actuation of the migration carbon button 70-1 to 70-4 of remote control and O.K. carbon button 71 actuation, and the contraction image with which the mark was added is displayed on the location, and corresponds is copied on MO disk 5-1. In this case, since the list sequence of the image file in the directory of a copy place changes by the copy, the file name after the image of the location of a copy place is changed. This is because it encodes as one of the parameters and the sequence of an image is also included in a file name.

[0065] Moreover, when [which is not a copy at the above-mentioned step S103] judged next, it judges whether the selected menu is deletion (step S105). When deletion is chosen, the image with which the mark was added is deleted (step S106), and it returns to the routine of a high order. Also in this case, like the case of the above-mentioned copy, the correspondence image file on MO disk 5-1 is deleted, and the file name of the other image file is changed suitably.

[0066] And since I hear that the print was chosen and it is, in not being deletion, either, after carrying out the index print of the contraction image with which the mark was added (step S107), it returns to the routine of a high order.

[0067] Next, the above-mentioned multi-index display which is the description of this invention is explained more to a detail. In MO disk 5-1 which is the mass store used also as external storage of a personal computer, it is directory structure as shown in drawing 15 , and an image file is stored, for example. Here, a directory "SUB A" is a directory dealt with by the above-mentioned digital image edit equipment 7, and the image file incorporated from the digital camera 1 or the memory card 2 there is memorized due to 1 medium 1 directory.

[0068] Of course, it is not necessary to be necessarily such directory file relation, and a directory name and a file name may be discontinuity and a directory name and a file name are also ascending order. Moreover, a directory "SUB A" does not restrict directly under the root (ROOT).

[0069] When reading an image from MO disk 5-1 with directory structure like the above-mentioned example and performing a multi-index display, processing of the above-mentioned steps S81 and S82 is performed by [as being shown in drawing 16 and drawing 17].

[0070] That is, the registers a, b, cx, and cy which were prepared in CPU34 or RAM37 and which are not illustrated are first initialized to "0", respectively (step S111). Then, "1" is set to the register y which was prepared in CPU34 or RAM37 and which is not illustrated (step S112), and "0" is set to the register x which was further prepared in CPU34 or RAM37 and which is not illustrated (step S113). Here, the value of Registers a and b shows offset of scrolling, and the value of Registers cx and cy shows the coordinate of cursor 204. Moreover, Register x and the value of y express a piece (contraction image) coordinate as shown in drawing 18 .

[0071] In this way, after setting termination of each register, from the value of Registers y and a, (y+a) is computed and it looks for the directory of eye the (y+a) watch (step S114). And if it judges whether there is any directory (step S115) and there is no directory, it will progress to step S126 mentioned later.

[0072] When there is a directory, the value of Register x judges whether it is "0" (step S116). When that is right, based on

Register x and the value of y, the picture 203 which shows a directory in a seat table (x*n, (y−1) *m), i.e., a cover, is drawn (step S118). In addition, n and m express the magnitude of one piece here. And "1" increment of the value of Register x is carried out (step S119), and it judges whether they are whether the result is below "3" and the inside of a screen that is, (step S120). When it is return and a larger value than "3" at the above-mentioned step S114 with "3", it progresses to step S124 mentioned later. [below]

[0073] And when the value of Register x is judged not to be "0" at the above-mentioned step S116, from Register x and the value of b, (x+b) is computed and it searches for the file of eye watch (x+b) in the directory of eye the above-mentioned (y+a) watch using the value (step S120). And it progresses to the above-mentioned step S118, after reading the file and displaying the contraction image on a coordinate (x*n, (y−1) *m) (step S122), if the existence of a file is distinguished (step S121) and there is a file.

[0074] In this way, when the value of Register x is judged to have become larger than "3" at the above-mentioned step S119, namely, when the image of the 3rd sheet of the directory concerned finishes being displayed, Or when it is judged at the above-mentioned step S121 that there is no file next, "1" increment of the value of Register y is carried out (step S123), and it judges whether they are whether the result is below "4" and the inside of a screen that is, (step S124). With "4", it returns to the above-mentioned step S113. [below] That is, the same processing as the above is performed about the next directory.

[0075] And when it is judged at the above-mentioned step S115 that there is no directory, or when it is judged that the value of Register y turned into a large value from "4" in the above-mentioned step S124, cursor (****) 204 is displayed on the location of the cover 203 of the coordinate shown with the value of Registers cx and cy (cx, cy), i.e., the first directory, (step S125). Then, it becomes the input waiting of remote control 3 (step S126).

[0076] And if the left translation carbon button 7-1 of remote control 3 is operated (step S127) The value of the register cx at that time judges whether cursor 204 is displayed on it being "0", i.e., a left end, (step S128). Cursor 204 is moved to the location of the contraction image of one left by carrying out "1" decrement of the value of Register cx (step S129), and it returns to the above-mentioned step S126. On the other hand, when the value of Register cx is "0", after carrying out "1" decrement of the value of Register a (step S130), it indicates by one scrolling on the left by returning to the above-mentioned step S112, and repeating the above-mentioned processing.

[0077] Moreover, if the right translation carbon button 7-2 of remote control 3 is operated (step S131) The value of the register cx at that time judges whether cursor 204 is displayed on it being "3", i.e., a right end, (step S132). Cursor 204 is moved to the location of the contraction image of one right by carrying out "1" increment of the value of Register cx (step S133), and it returns to the above-mentioned step S126. On the other hand, when the value of Register cx is "3", after carrying out "1" increment of the value of Register a (step S134), it indicates by one scrolling on the right by returning to the above-mentioned step S112, and repeating the above-mentioned processing.

[0078] If the upper migration carbon button 7-3 of remote control 3 is operated (step S135) The value of the register cy at that time judges whether cursor 204 is displayed on it being "1", i.e., upper limit, (step S136). Cursor 204 is moved to the location of the contraction image on one by carrying out "1" decrement of the value of Register cy (step S137), and it returns to the above-mentioned step S126. On the other hand, when the value of Register cy is "1", after carrying out "1" decrement of the value of Register b (step S138), it turns by one scrolling up by returning to the above-mentioned step S112, and repeating the above-mentioned processing.

[0079] Moreover, if the migration-under remote control 3 carbon button 7-4 is operated (step S139) The value of the register cy at that time judges whether cursor 204 is displayed on it being "4", i.e., a lower limit, (step S140). Cursor 204 is moved to the location of the contraction image under one by carrying out "1" increment of the value of Register cy (step S141), and it returns to the above-mentioned step S126. On the other hand, when the value of Register cy is "4", after carrying out "1" increment of the value of Register b (step S142), it turns by one scrolling down by returning to the above-mentioned step S112, and repeating the above-mentioned processing.

[0080] And other keys return to an actuation ****** case at the routine of (step S143) and a high order. That is, it will progress to the above-mentioned step S83, and the coordinate (cx, cy) shown with the location of cursor 204, i.e., the value of Registers cx and cy, will distinguish whether it is a cover location. And as mentioned above, processing according to the operated carbon button and this cursor location is performed. For example, when the image rotation carbon button 76 of remote control 3 is operated If it is image rotation actuation in the above-mentioned step S92 in case cursor is a cover location From the value of Register cy, and a value with Register a, 90 degrees of images of all the image files in the directory of eye watch (cy+a) are rotated clockwise. Moreover, if it is image rotation actuation in the above-mentioned step S62 in case cursor is an image location 90 degrees of images of one image file of eye watch (cx+b) in the directory of eye watch (cy+a) are made clockwise rotated from the value of the value of Registers cx and cy, and Registers a and b.

[0081] Although this invention was explained based on the gestalt of operation above, this invention is not limited to the gestalt of operation mentioned above, and it is needless to say for deformation and application various by within the limits of the summary of this invention to be possible.

[0082] For example, you may be a right end although the cover in which a directory is shown was arranged on the left end of each line in the above-mentioned explanation. Or you may be a lengthwise direction although one directory shall be displayed in the direction of a train. Furthermore, although one directory was made into one train, it can also consider as two trains.

[0083] Moreover, although the above-mentioned explanation explained the copy between directories at the time of a multi-index display, of course, migration can be performed similarly. Furthermore, although it is on a menu display and there was the need of carrying out selection actuation, in some actuation by limit of the number of carbon buttons of remote control 3 in the above-mentioned explanation, if remote control with many more large-sized carbon buttons is applied, it is also possible to lose menu selection.

[0084] Moreover, although the case where this invention was applied to the image edit equipment 7 of the dedication in a digital image edit system was explained, this invention of the ability to carry out also as application programs, such as a personal computer, is natural.

[0085]

[Effect of the Invention] Since M image files (M is two or more integers) are read from the directory of N individual of a record medium, respectively, the contents of each image file of this NxM individual are arranged to two dimensions and he is trying to display according to invention according to claim 1 as explained in full detail above, the display which can discover a desired file easily out of the multi-file saved by dividing to two or more directories can be performed. Moreover, it is possible to make it develop also into functions, such as a copy of the image file over between directories.

[0086] Moreover, according to invention according to claim 2, since he is trying to display the name of the directory concerned on a part of above-mentioned 2-dimensional arrangement in the condition which can distinguish correspondence relation with the contents display of the M above-mentioned image files, the relation between a directory and an image file can distinguish easily. Moreover, it can be made to develop also into the function to make package selection of all the files in the directory concerned, by specifying the directory name part.
[0087] Moreover, according to invention according to claim 3, answer predetermined actuation and additional read-out of image files other than the image file of the above-mentioned N individual corresponding to one of two or more directories displayed by the above-mentioned 2-dimensional arrangement is performed. Since it replaces with the contents of the image file of directories other than the directory and he is trying to display the contents of each [these / that carried out additional read-out] image file, it can respond easily to indicate only the file in one directory by list like before.

[Translation done.]

* NOTICES *

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2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is drawing showing the digital image edit structure of a system which applied the digital image edit equipment of this invention.
[Drawing 2] It is the appearance perspective view of the digital image edit equipment shown in drawing 1 .
[Drawing 3] It is the functional block diagram showing the internal configuration of digital image edit equipment.
[Drawing 4] It is drawing showing a process until the image data recorded on the memory card or the MO disk is read and it is displayed on the screen of television.
[Drawing 5] It is drawing showing various kinds of carbon buttons prepared in remote control.
[Drawing 6] It is drawing showing the condition of sticking remote control on the rear face of the remote control for television actuation with the double-sided tape etc.
[Drawing 7] (A) is the operation flow chart of digital image edit equipment, and (B) is drawing showing the icon display as an initial screen at the time of power-source ON.
[Drawing 8] It is the flow chart which shows the detail of the digital camera processing in drawing 7 , or memory card processing.
[Drawing 9] (A) Or (D) is drawing showing the example of a display, respectively.
[Drawing 10] It is a flow chart for explaining the remote control actuation processing 1 in drawing 8 .
[Drawing 11] (A) is the flow chart of the menu processing 1 in drawing 10 , and (B) is the flow chart of the menu processing 2 in drawing 12 .
[Drawing 12] It is a flow chart for explaining the remote control actuation processing 2 in drawing 8 .
[Drawing 13] It is the flow chart which shows the detail of MO processing in drawing 7 .
[Drawing 14] (A) And (B) is drawing showing the example of a display under MO processing, respectively, and (C) is a flow chart for explaining the menu selection processing in drawing 13 .
[Drawing 15] It is drawing for explaining the hierarchical directory structure of an MO disk.
[Drawing 16] It is drawing showing a part for the first portion of a series of flow charts for explaining the detail of the image data acquisition processing in an MO disk in drawing 13 , and multi-index processing.
[Drawing 17] It is drawing showing the second half part of a series of flow charts for explaining the detail of the image data acquisition processing in an MO disk in drawing 13 , and multi-index processing.
[Drawing 18] It is drawing for explaining (x, y) at the time of a multi-index display.
[Description of Notations]
1 Digital Camera
2 Memory Card
3 Remote Control
4 Television
5 Electronic Album Equipment
6 Printer
7 Digital Image Edit Equipment
34 CPU
35 ROM
36 JPEG Expanding IC
37 RAM
38 Memory Card Interface
39 SCSI Controller
40 Video Controller

[Translation done.]

* NOTICES *

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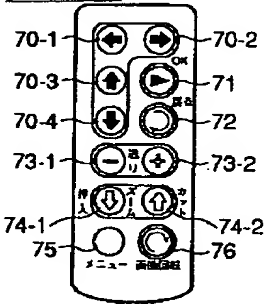
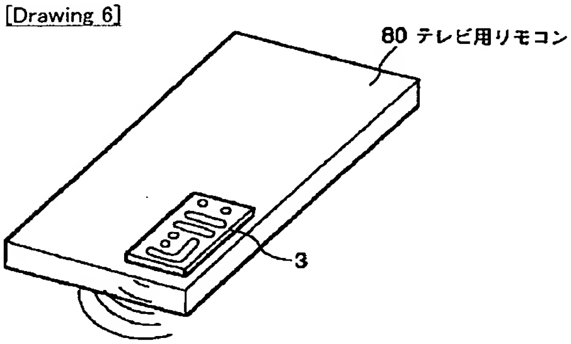
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DRAWINGS

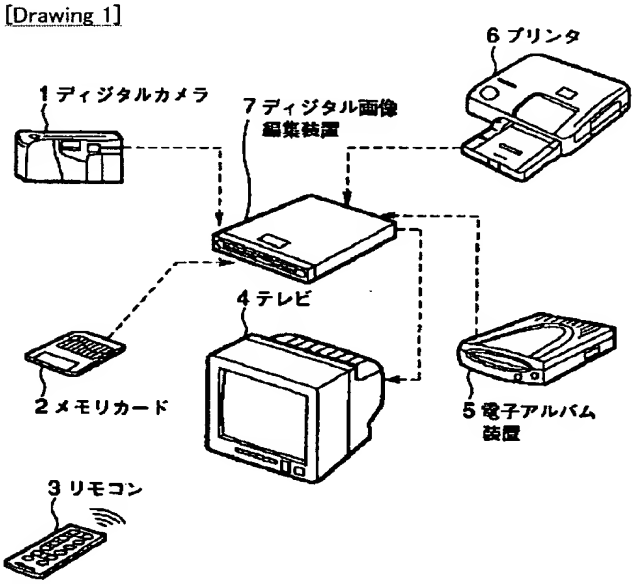
[Drawing 5]


70-1
70-2
70-3
OK
71
70-4
戻る
72
73-1
73-2
74-1
74-2
75
76
メニュー

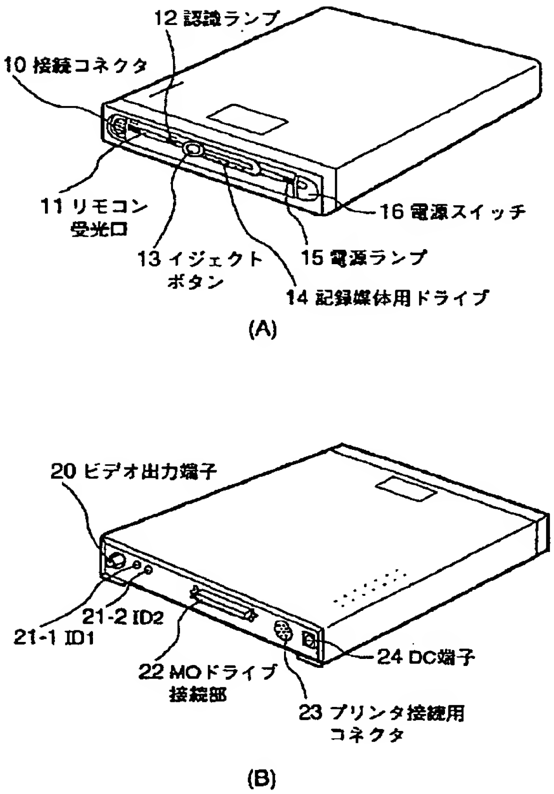
[Drawing 6]


80 テレビ用リモコン
3

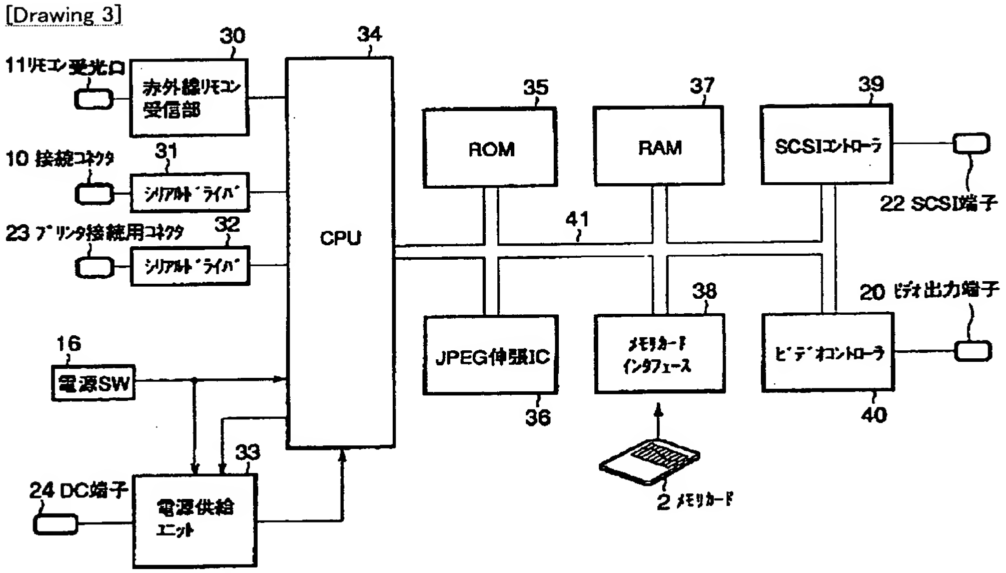
[Drawing 1]


6 プリンタ
1 ディジタルカメラ
7 ディジタル画像編集装置
4 テレビ
2 メモリカード
5 電子アルバム装置
3 リモコン

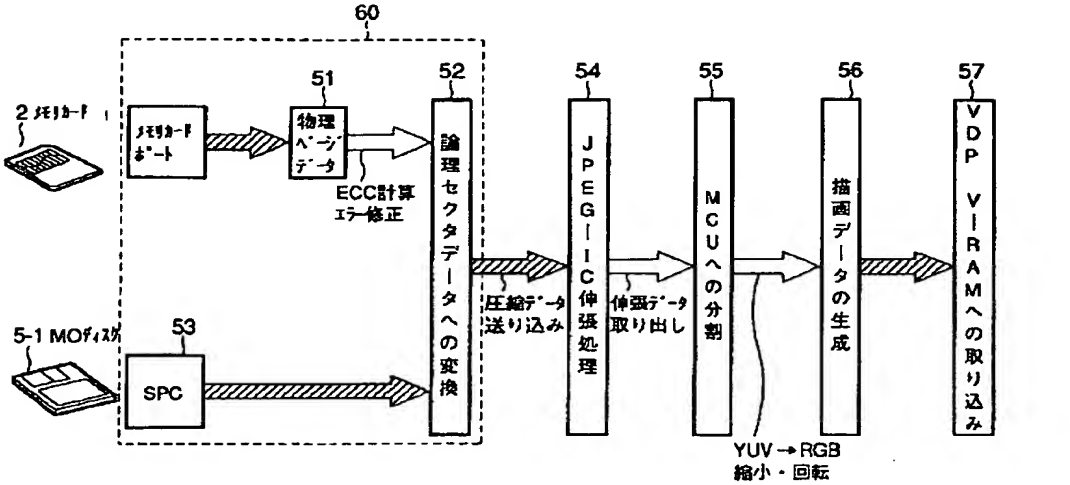
[Drawing 2]


12 認識ランプ
10 接続コネクタ
11 リモコン受光口
13 イジェクトボタン
15 電源ランプ
14 記録媒体用ドライブ
16 電源スイッチ
(A)
20 ビデオ出力端子
21-2 ID2
21-1 ID1
22 MOドライブ接続部
23 プリンタ接続用コネクタ
24 DC端子
(B)

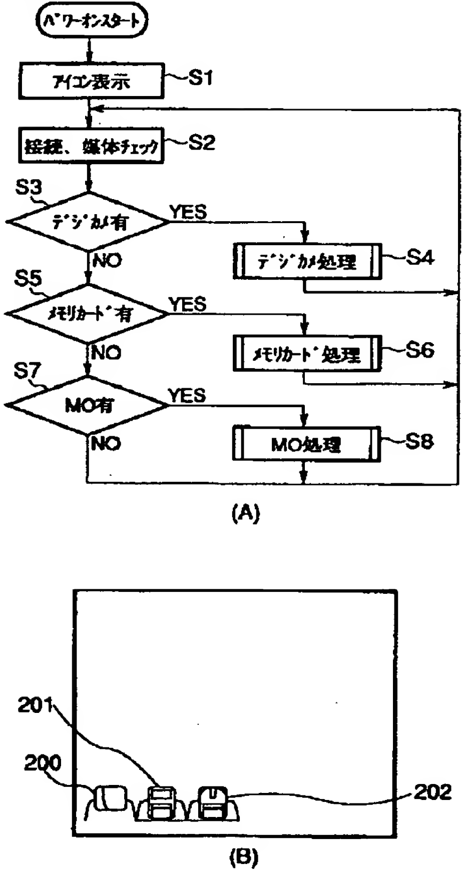
[Drawing 3]


11ﾘﾓｺﾝ受光口
30
赤外線ﾘﾓｺﾝ受信部
10 接続ｺﾈｸﾀ
31
ｼﾘｱﾙﾄﾞﾗｲﾊﾞ
23 ﾌﾟﾘﾝﾀ接続用ｺﾈｸﾀ
32
ｼﾘｱﾙﾄﾞﾗｲﾊﾞ
16
電源SW
33
24 DC端子
電源供給ﾕﾆｯﾄ
34
CPU
35
ROM
37
RAM
39
SCSIｺﾝﾄﾛｰﾗ
22 SCSI端子
41
JPEG伸張IC
36
38
ﾒﾓﾘｶｰﾄﾞｲﾝﾀﾌｪｰｽ
2 ﾒﾓﾘｶｰﾄﾞ
20 ﾋﾞﾃﾞｵ出力端子
ﾋﾞﾃﾞｵｺﾝﾄﾛｰﾗ
40

[Drawing 4]


60
2 メモリカード
メモリカードポート
51
物理ページデータ
ECC計算
エラー修正
52
論理セクタデータへの変換
5-1 MOディスク
53
SPC
圧縮データ送り込み
54
JPEG-IC伸張処理
伸張データ取り出し
55
MCUへの分割
YUV → RGB
縮小・回転
56
描画データの生成
57
VDP V-RAMへの取り込み

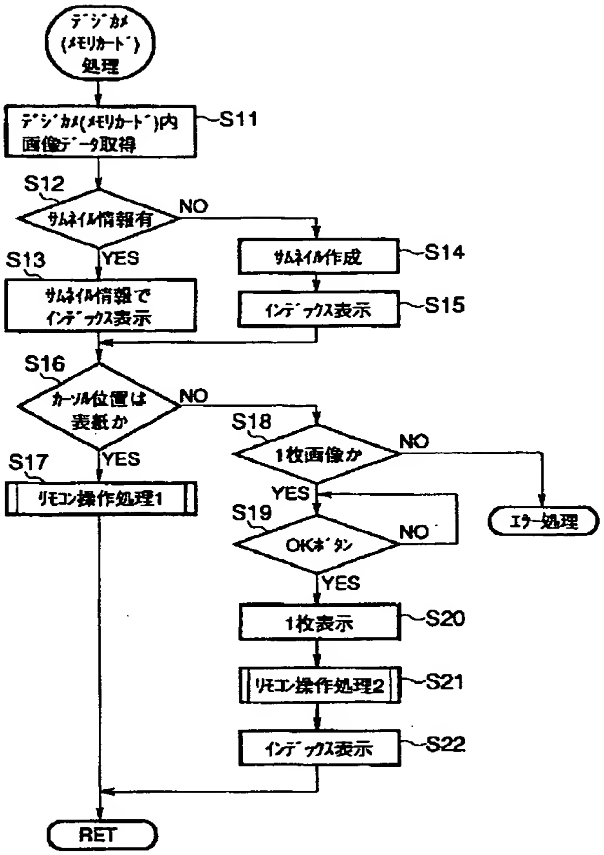
[Drawing 7]


パワーオンスタート
アイコン表示
S1
接続、媒体チェック
S2
S3
デジカメ有
YES
NO
デジカメ処理
S4
S5
メモリカード有
YES
NO
メモリカード処理
S6
S7
MO有
YES
NO
MO処理
S8
201
200
202

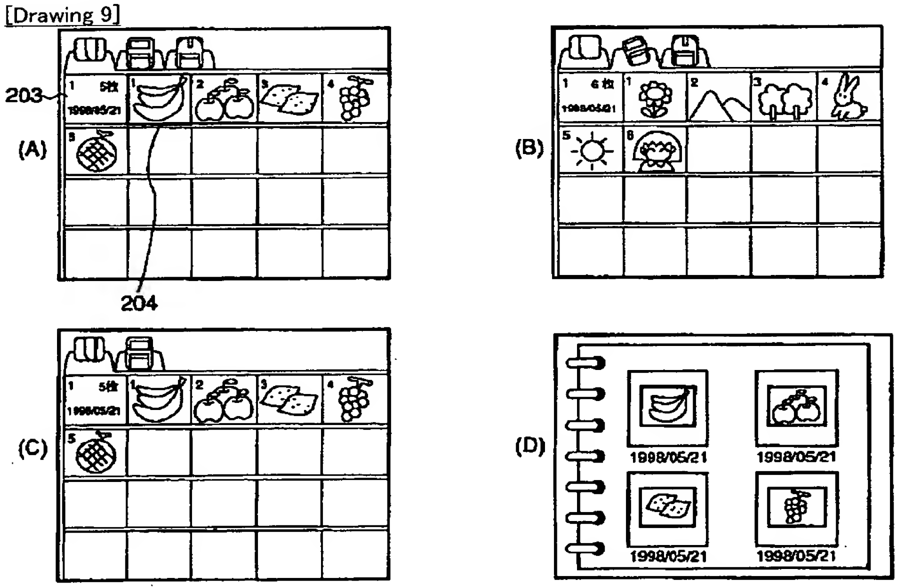
(A)

(B)

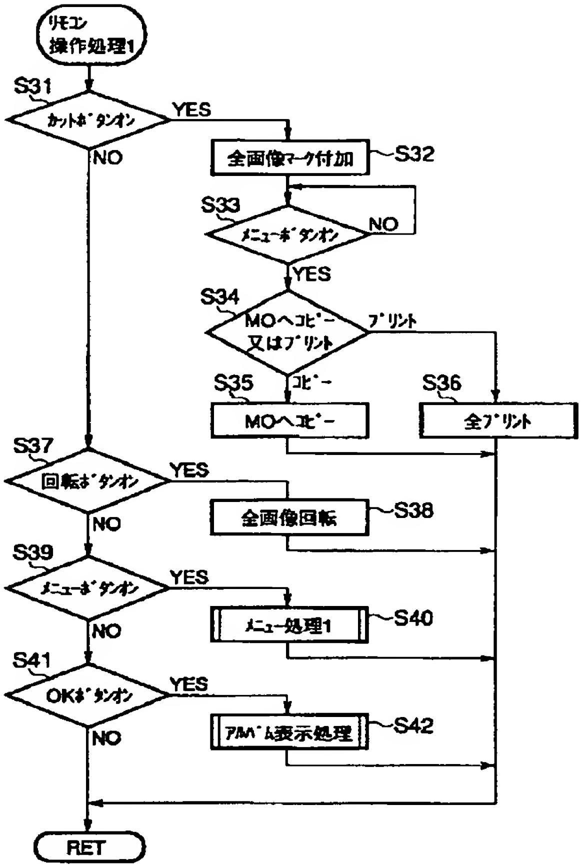
[Drawing 8]


ﾃﾞｼﾞｶﾒ(ﾒﾓﾘｶｰﾄﾞ)処理
ﾃﾞｼﾞｶﾒ(ﾒﾓﾘｶｰﾄﾞ)内画像ﾃﾞｰﾀ取得
S11
S12
ｻﾑﾈｲﾙ情報有
NO
YES
S14
ｻﾑﾈｲﾙ作成
S15
ｲﾝﾃﾞｯｸｽ表示
S13
ｻﾑﾈｲﾙ情報でｲﾝﾃﾞｯｸｽ表示
S16
ｶｰｿﾙ位置は表紙か
NO
YES
S17
ﾘﾓｺﾝ操作処理1
S18
1枚画像か
NO
YES
ｴﾗｰ処理
S19
OKﾎﾞﾀﾝ
NO
YES
S20
1枚表示
S21
ﾘﾓｺﾝ操作処理2
S22
ｲﾝﾃﾞｯｸｽ表示
RET

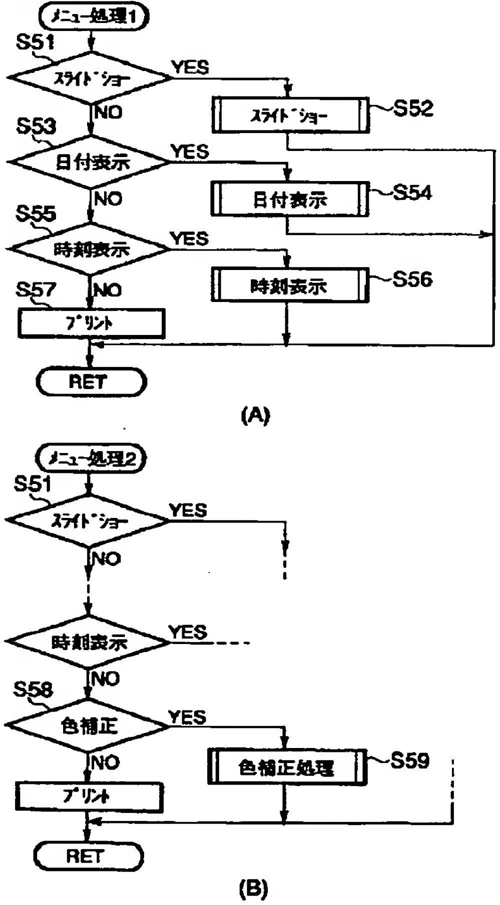
[Drawing 9]


203
(A)
1 5枚
1998/05/21
1
2
3
4
5
204
(B)
1 6枚
1998/05/21
1
2
3
4
5
6
(C)
1 5枚
1998/05/21
1
2
3
4
5
(D)
1998/05/21
1998/05/21
1998/05/21
1998/05/21

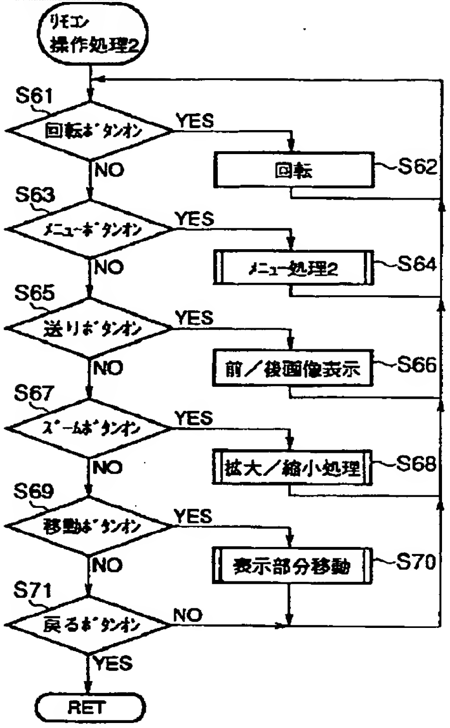
[Drawing 10]


ﾘﾓｺﾝ操作処理1
S31
ｶｯﾄﾎﾞﾀﾝｵﾝ
YES
NO
全画像ﾏｰｸ付加
S32
S33
ﾒﾆｭｰﾎﾞﾀﾝｵﾝ
NO
YES
S34
MOへｺﾋﾟｰ又はﾌﾟﾘﾝﾄ
ﾌﾟﾘﾝﾄ
ｺﾋﾟｰ
S35
MOへｺﾋﾟｰ
S36
全ﾌﾟﾘﾝﾄ
S37
回転ﾎﾞﾀﾝｵﾝ
YES
全画像回転
S38
NO
S39
ﾒﾆｭｰﾎﾞﾀﾝｵﾝ
YES
ﾒﾆｭｰ処理1
S40
NO
S41
OKﾎﾞﾀﾝｵﾝ
YES
ｱﾙﾊﾞﾑ表示処理
S42
NO
RET

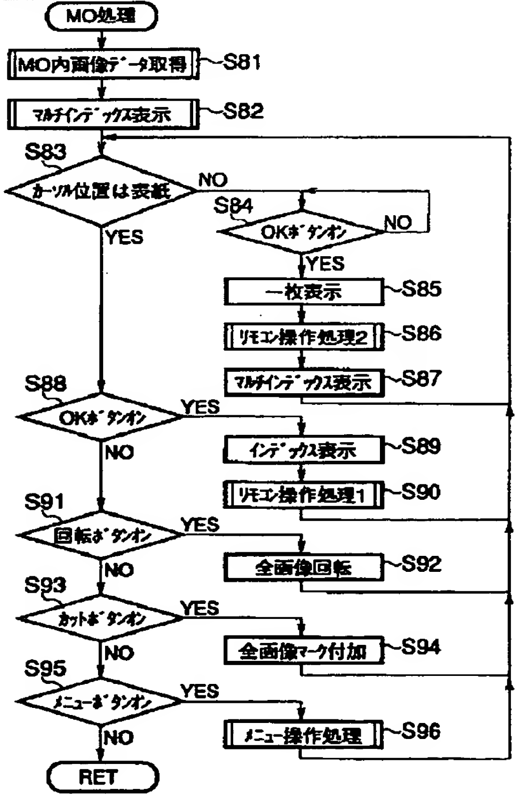
[Drawing 11]


ﾒﾆｭｰ処理1
S51
ｽﾗｲﾄﾞｼｮｰ
YES
ｽﾗｲﾄﾞｼｮｰ
S52
NO
S53
日付表示
YES
日付表示
S54
NO
S55
時刻表示
YES
時刻表示
S56
S57
NO
ﾌﾟﾘﾝﾄ
RET
(A)
ﾒﾆｭｰ処理2
S51
ｽﾗｲﾄﾞｼｮｰ
YES
NO
時刻表示
YES
NO
S58
色補正
YES
色補正処理
S59
NO
ﾌﾟﾘﾝﾄ
RET
(B)

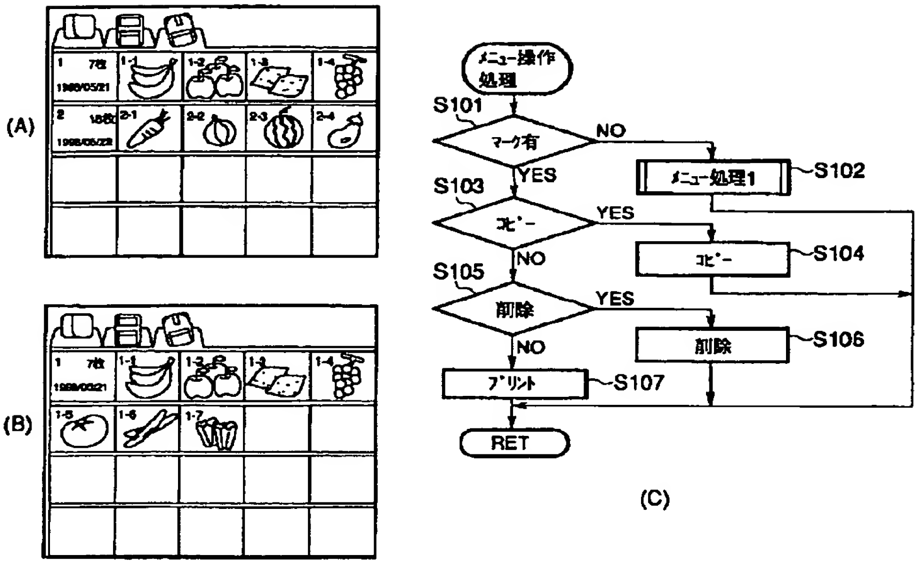
[Drawing 12]


ﾘﾓｺﾝ 操作処理2
S61
回転ﾎﾞﾀﾝｵﾝ
YES
NO
回転
S62
S63
ﾒﾆｭｰﾎﾞﾀﾝｵﾝ
YES
NO
ﾒﾆｭｰ処理2
S64
S65
送りﾎﾞﾀﾝｵﾝ
YES
NO
前／後画像表示
S66
S67
ｽﾞｰﾑﾎﾞﾀﾝｵﾝ
YES
NO
拡大／縮小処理
S68
S69
移動ﾎﾞﾀﾝｵﾝ
YES
NO
表示部分移動
S70
S71
戻るﾎﾞﾀﾝｵﾝ
NO
YES
RET

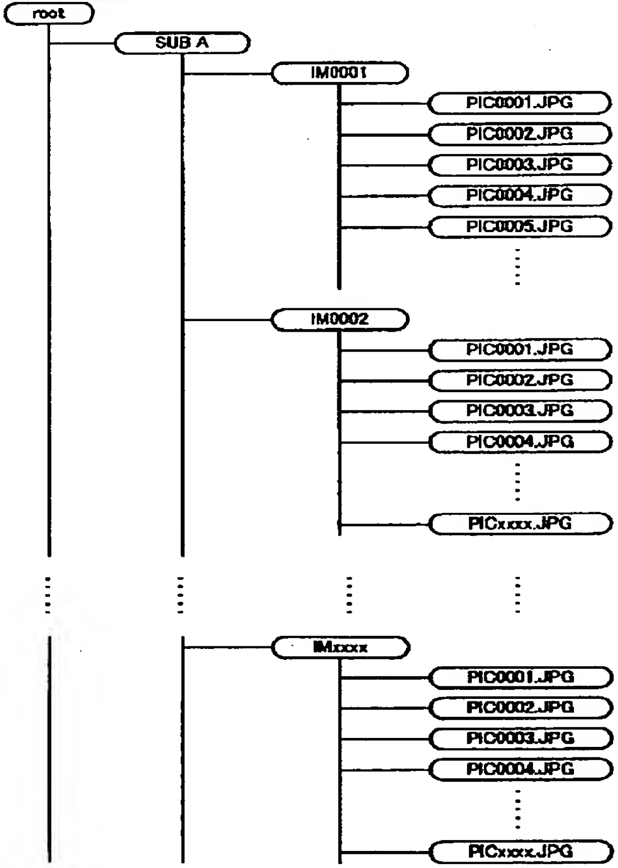
[Drawing 13]


MO処理
MO内画像ﾃﾞｰﾀ取得
S81
ﾏﾙﾁｲﾝﾃﾞｯｸｽ表示
S82
S83
ｶｰｿﾙ位置は表紙
NO
YES
S84
OKﾎﾞﾀﾝｵﾝ
NO
YES
一枚表示
S85
ﾘﾓｺﾝ操作処理2
S86
ﾏﾙﾁｲﾝﾃﾞｯｸｽ表示
S87
S88
OKﾎﾞﾀﾝｵﾝ
YES
NO
ｲﾝﾃﾞｯｸｽ表示
S89
ﾘﾓｺﾝ操作処理1
S90
S91
回転ﾎﾞﾀﾝｵﾝ
YES
NO
全画像回転
S92
S93
ｶｯﾄﾎﾞﾀﾝｵﾝ
YES
NO
全画像ﾏｰｸ付加
S94
S95
ﾒﾆｭｰﾎﾞﾀﾝｵﾝ
YES
NO
ﾒﾆｭｰ操作処理
S96
RET

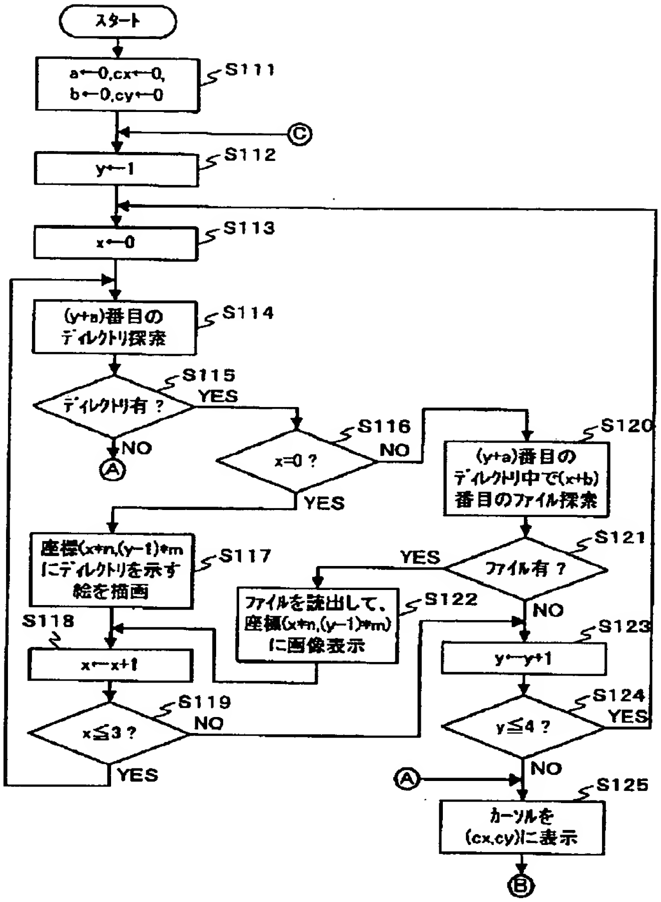
[Drawing 14]


(A)
1
7枚
1998/05/21
1-1
1-2
1-3
1-4
2
15枚
1998/05/22
2-1
2-2
2-3
2-4
(B)
1
7枚
1998/05/21
1-1
1-2
1-3
1-4
1-5
1-6
1-7
メニュー操作処理
S101
マーク有
NO
YES
メニュー処理1
S102
S103
コピー
YES
NO
コピー
S104
S105
削除
YES
NO
削除
S106
プリント
S107
RET
(C)

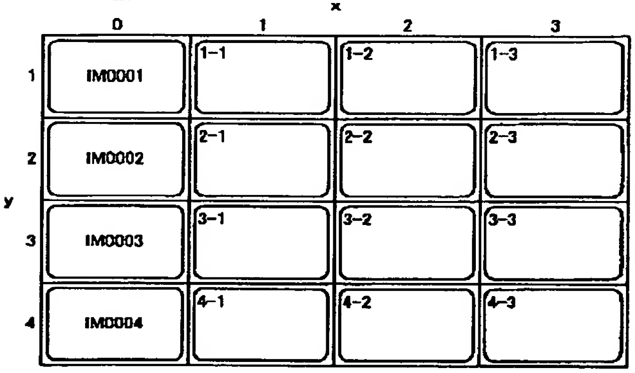
[Drawing 15]


root
SUB A
IM0001
PIC0001.JPG
PIC0002.JPG
PIC0003.JPG
PIC0004.JPG
PIC0005.JPG
IM0002
PIC0001.JPG
PIC0002.JPG
PIC0003.JPG
PIC0004.JPG
PICxxxx.JPG
IMxxxx
PIC0001.JPG
PIC0002.JPG
PIC0003.JPG
PIC0004.JPG
PICxxxx.JPG

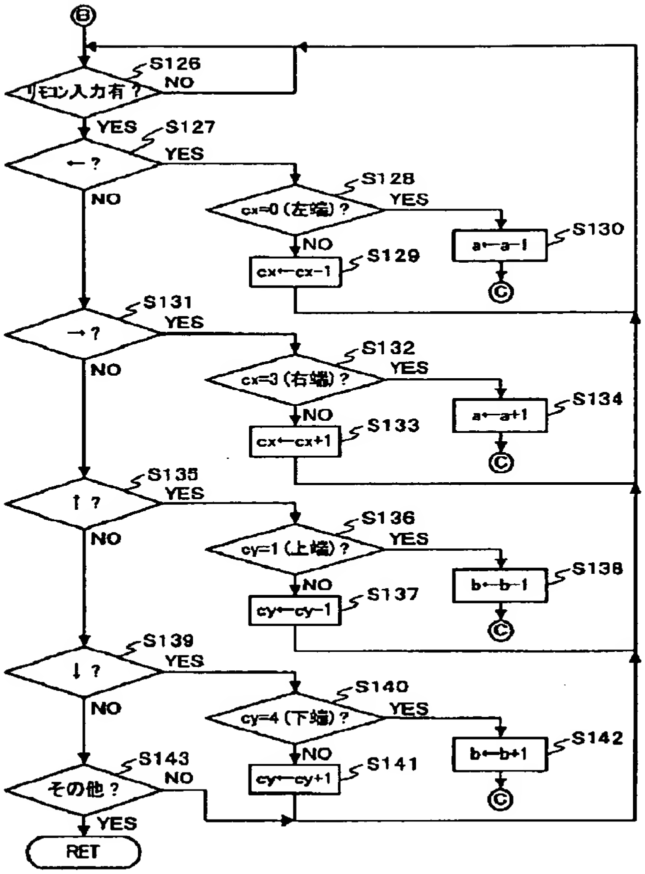
[Drawing 16]


スタート
a←0,cx←0,
b←0,cy←0
S111
Ⓒ
y←1
S112
x←0
S113
(y+a)番目の
ディレクトリ探索
S114
ディレクトリ有？
S115
YES
NO
Ⓐ
x=0？
S116
NO
YES
(y+a)番目の
ディレクトリ中で(x+b)
番目のファイル探索
S120
座標(x*n,(y−1)*m
にディレクトリを示す
絵を描画
S117
YES
ファイル有？
S121
NO
ファイルを読出して、
座標(x*n,(y−1)*m)
に画像表示
S122
S118
x←x+1
y←y+1
S123
x≦3？
S119
NO
YES
y≦4？
S124
YES
NO
Ⓐ
S125
カーソルを
(cx,cy)に表示
Ⓑ

[Drawing 18]


x
0
1
2
3
y
1
2
3
4
IM0001
1−1
1−2
1−3
IM0002
2−1
2−2
2−3
IM0003
3−1
3−2
3−3
IM0004
4−1
4−2
4−3

[Drawing 17]


Ⓑ
S126
リモコン入力有？
NO
YES
S127
←？
YES
NO
S128
cx=0（左端）？
YES
NO
S129
cx←cx−1
S130
a←a−1
Ⓒ
S131
→？
YES
NO
S132
cx=3（右端）？
YES
NO
S133
cx←cx+1
S134
a←a+1
Ⓒ
S135
↑？
YES
NO
S136
cy=1（上端）？
YES
NO
S137
cy←cy−1
S138
b←b−1
Ⓒ
S139
↓？
YES
NO
S140
cy=4（下端）？
YES
NO
S141
cy←cy+1
S142
b←b+1
Ⓒ
S143
その他？
NO
YES
RET

[Translation done.]

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